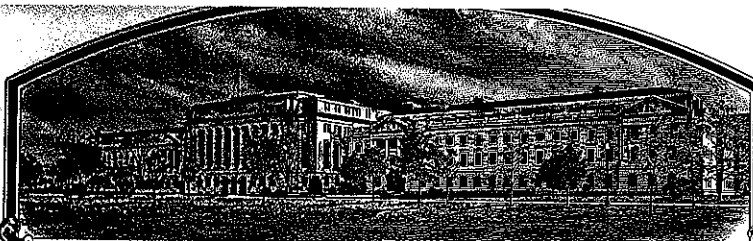


No.

200700082



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:
California Cooperative Rice Research Foundation, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMERICAL GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RICE

'M-208'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of November, in the year two thousand and seven.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

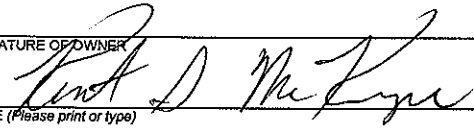
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER California Cooperative Rice Research Foundation, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 02-Y-816		3. VARIETY NAME M-208	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Rice Experiment Station PO Box 306, 955 Butte City Hwy. Biggs, CA 95917		5. TELEPHONE (include area code) 530-868-5481		FOR OFFICIAL USE ONLY PVPO NUMBER #200700082 FILING DATE DECEMBER 28, 2006	
		6. FAX (include area code) 530-868-1730			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Non Profit Organization		8. IF INCORPORATED, GIVE STATE OF INCORPORATION CA		9. DATE OF INCORPORATION 1912	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Dr. Kent S. McKenzie Director Rice Experiment Station PO Box 306 Biggs, CA 95917				F E E S \$ 4,382.00 DATE 12/28/06 R E C E I V E D C E R T I F I C A T I O N F E E: \$ 768.00 DATE 10/28/07	
11. TELEPHONE (Include area code) 530-868-5481		12. FAX (Include area code) 530-868-1730		13. E-MAIL ksmckenzie@crrf.org	
14. CROP KIND (Common Name) Rice		16. FAMILY NAME (Botanical) Gramineae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Oryza sativa L.		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F. Declaration Regarding Deposit g. <input checked="" type="checkbox"/> Voucher Sample (3,000 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) h. <input checked="" type="checkbox"/> Filing and Examination Fee (\$4,382), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)				20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23) 21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER		SIGNATURE OF OWNER 			
NAME (Please print or type)		NAME (Please print or type) Kent S. McKenzie			
CAPACITY OR TITLE		CAPACITY OR TITLE Director / SECRETARY		DATE December 19, 2006	

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (*See Regulations and Rules of Practice, Section 97.103.*)
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.) Foundation seed is maintained by the Rice Experiment Station (RES). Normal seed multiplication starts with head-row seed used for breeders which in turn is used to plant foundation. Headrow seed is produced as necessary. RES policy allows foundation seed to be used to produce Foundation seed when approved by CCRRE

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.) M-208 was jointly released by the California Co-op Rice Research Fdn, California Agricultural Exp. Station, and the USDA-ARS. Foundation seed will be distributed to California rice seed growers April 1, 2006 for the purpose of producing registered seed.

24. CONTINUED FROM FRONT. (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

Tentative plans are to seek a utility patent for M-208.

us Patent Application No. 11/674,284 filed 2/13/2007

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (*See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.*)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

'M-208' RICE**19. Exhibit A. Origin and Breeding History of the Variety**

1. **Genealogy:** M-208 is an early, semidwarf, California glabrous, Calrose quality medium-grain (CRMG) experimental line that has been evaluated in large plot yield tests since 2002. It is an early selection from the Rice Experiment Station (RES) 1997-98 winter greenhouse cross R23324 and has the pedigree 'M-401'/3/'Mercury'/'Mercury'/'Koshihikari' (97 Row 17126)/4/'M-204'. 97 Row 17126 was derived from the cross R19610 made in the 1993-94 winter greenhouse. The male parent of cross R19610 was later released as medium-grain 'Lafitte' (PI593690) by Louisiana State University and was the source for *Piz* blast resistance gene. M-204 is an early CRMG currently used in California rice production. M-208 is the product of modified pedigree breeding utilizing the Hawaii (HI) winter and RES nurseries for generation advance and purification. R22821 F₁ seed was advanced in 1998 producing F₂ seed for the 1999 RES dry planted F₂ nursery. Early spray painted panicle selections from the 1999 F₂ nursery selected for medium grain characters were bulked 6 panicles/row in the 1999-2000 HI nursery. Panicle selections grouped from the R23324 HI rows were planted in 2000 individual rows. 2000 row 6817 was cut for yield testing in 2001. Panicle selections from 2000 row 6817 were again planted in 2001. 2001 row 9874 was seed source for the special blast large plot trial as entry 02-Y-816. It has been tested in the University of California Cooperative Extension (UCCE) Statewide Yield Tests (03-Y-32, 04-Y-12 and 05-Y-73) in years 2003 to 2005. Approximately 390 cwt of foundation seed was produced in 2005.

2. **Selection and Multiplication:** Selection was made for Calrose medium kernel characteristics, resistance to blast race IG-1, and adaptation to California growing conditions. Panicle selections were taken for headrow production in 2002, 2002-03 HI nursery, 2003 and 2004. Thirty eight selected panicles from the 2002 seed maintenance nursery were planted in the 2002-03 HI nurseries. Nine 2002-03 HI rows were selected to plant 57 rows in the 2003 headrow nursery in which one component (HI row) was eliminated for being 4 days later. The remaining saved rows were bulked to plant the 2004 breeder seed basin. Eight panicle rows from the 2003 headrow were used to plant the 200 row that made the 2004 headrow block in the breeders field. 2004 breeder seed was used to plant the 2005 foundation field (5.8 acres). Molecular marker analysis of the nine 02-03 HI rows, eight 2003 RES headrows, and sixteen 2004 headrow midseason growth tissue indicated the presence of the *Piz* gene and they were homozygous (fixed) with no heterozygotes present.

3. **Uniformity and Stability:** Panicle selection and advancement was made for four headrow nurseries that started in 2002 and continued through 2004. The *Piz* gene present in Lafitte confers resistance to the California blast race IG-1. During the headrowing process putative segregating or variant rows were removed from the field. Visual inspection (seedling vigor, heading date, plant height, grain shape and size, etc.) of headrows were used as criteria to confirm cultivar purity. This is

standard procedure at RES to monitor and maintain breeder seed of the 17 currently grown California rice varieties. M-208 was approved for certification by the California Crop Improvement Association in 2006. Classes of seed will be breeder, foundation, registered and certified seed produced in California. Foundation seed can be used to produce foundation seed if necessary and headrow and breeder seed will be produced in foundation fields as necessary to maintain cultivar purity. M-208 has been observed in seed increase and production fields for four generations (2002 thru 2004) and found to be uniform and stable. In addition, multiple greenhouse and molecular marker analysis were conducted to confirm that sampled rows were homozygous for the resistance allele of the *Piz* allele.

4. **Variants:** The breeder, foundation, and headrow blocks were rogued multiple times and off-types, putative outcrosses, and other visual variants were removed. These include a very early medium grains, slightly taller later medium-grains, early short grains and elongated upper internode medium grains. In addition there were putative tetraploids (larger kernel size, delayed maturity, and high floret sterility) that were removed from the foundation field. Total frequency of these variants was 0.0034%. Selection, headrow, isolation, inspection, and seed production methods used by the Rice Experiment Station for California rice varieties were followed for M-208 and no indication of problems in stability were observed in the foundation field.

19. Exhibit B. Statement of Distinctiveness

1. **Variety Differences:** M-208 is classified as *Gramineae*, *Oryza sativa* L., and the temperate japonica race. M-208 is a semidwarf, early maturing, medium-grain being released to serve the Calrose medium-grain market. "Calrose" was the founding California medium-grain rice variety, the ancestor of California medium-grains, and is now recognized as a market class term for California medium-grain rice. Comparisons for evaluation purposes were made to M-202, which is the predominant early maturing California medium-grain, M-206, a very early to early maturing California medium-grain, and M-207, the first Calrose medium-grain with resistance to the IG-1 blast race found in California.

M-208 is a Calrose medium-grain with resistance to blast (*Pyricularia grisea*) race IG-1 found in California. M-208 is most similar to M-202. This blast resistance distinguishes M-208 from all other Calrose medium-grain rices in commercial production in California except M-207, which also has the same IG-1 blast resistance gene. M-208 is distinguished from M-207 by being 5 days later in days to heading at RES and having a higher 1000 kernel weight.

2. **Statistical Data:** Agronomic characteristics were collected in multiple years (Table 2) in very early and/or early county trials years 2003 to 2005. A separate subset of this data collected at RES for the same time frame is presented in Table 1, showing that M-208 is significantly later than M-206 and M-207. Table 2 also includes data from RES showing that M-208 kernel weight and size larger than M-207.

Table 1. Heading Dates and Plant Height of M-208 Compared to M-206, M-207 and M-202 at RES, Biggs, CA, for Years 2003-2005.

Test	Variety	50% Heading (days)	Plant Height (cm)
2003 Very Early RES	M-206	70	90
	M-208	75	93
	M-207	71	94
	M-202	77	89
	LSD (0.05)	3.0	2.8
2004 Very Early RES	M-206	80	105
	M-208	86	106
	M-207	82	101
	M-202	89	103
	LSD (0.05)	3.5	3.0
2005 Early RES	M-206	73	98
	M-208	79	101
	M-207	73	95
	M-202	77	96
	LSD (0.05)	2.5	2.8

Table 2. Summary of Agronomic Characteristics of Very Early and Early Statewide Yield Tests from 2003 to 2005 for M-206, M-208, M-207 and M-202.

Character	M-206	M-208	M-207	M-202
Seedling vigor (score)	4.9	5.0	4.8	4.9
Days 50% heading	80	86*	82	85
Plant height (cm)	98	100	98	98
Lodging (%)	33	33	42	32
Blanking - Greenhouse (%)	8	9	11	12
Blanking - Davis (%)	9	15	25	17
Blanking - San Joaquin (%)	7	10	11	13
Overall blanking mean (%)	8	11	16	14
Stem rot (score)	6.4	6.6	7.5	6.3
Harvest moisture (%)	20.9	19.7	18.9	20.9
Yield (lb/acre @ 14%)	8812	8641	8334	8465
Milling (%) total	68.4	67.9	66.7	68.2
Milling (%) whole grain	64.7	63.8	61.3	63.1
Brown weight 1000 seeds (g)	23.8	24.4**	21.6	23.2
Brown length (mm)	6.26	6.60	6.42	6.24
Brown width (mm)	2.82	2.85	2.71	2.85
Ratio (L/W)	2.22	2.32	2.36	2.19
Apparent Amylose (%)	16.8	17.3	15.3	15.6
Alkali score (1.7% KOH)	6.0	6.7	6.2	6.6

*Significantly different than M-206 and M-207 at the 0.05 level.

** Significantly different than M-207 at the 0.05 level.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Rice (*Oryza sativa*)

NAME OF APPLICANT (S) California Cooperative Rice Research Foundation, Inc.	TEMPORARY OR EXPERIMENTAL DESIGNATION 02-Y-816	VARIETY NAME M-208
ADDRESS (Street and No. or RD No., City, State, and Zip Code, Country) Rice Experiment Station 955 Butte City Hwy. PO Box 306 Biggs, CA 95917		FOR OFFICIAL USE ONLY PVPO NUMBER #200700082

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Place the appropriate number that describes the character of this variety in the spaces provided below. These numbers are also code numbers corresponding to descriptors developed by IBGR-IRRI Rice Advisory Committee and the US Rice Crop Advisory Committee. Breeders will demonstrate distinctness more readily by describing as many characters as is possible.

1. MATURITY: Days to Heading (Seedling to 50% Heading)

A. South: (Location: _____) at _____ kg/ha (Nitrogen Rate)

____ Number of Days

____ Days Earlier Than Check Variety: _____

____ Days Same As Check Variety: _____

____ Days Later Than Check Variety: _____

____ Maturity Class 1 = Very Early (85 Days or Less) 2 = Early (86 - 100)
3 = Intermediate (101 - 115) 4 = Late (More Than 115)

B. California: (Location: Biggs, CA) at 135 kg/ha (Nitrogen Rate)

80 Number of Days (fallow land)

1 Days Earlier Than Check Variety: M-202

____ Days Same As Check Variety: _____

5 Days Later Than Check Variety: M-207

2 Maturity Class 1 = Very Early (90 Days or Less) 2 = Early (91 - 97)
3 = Intermediate (98 - 104) 4 = Late (More Than 104)

2. CULM:

1 Angle (Degrees from Perpendicular after Flowering):

1 = Erect (Less than 30°) 3 = Intermediate (About 45°) 5 = Open (About 60°)
7 = Spreading (More than 60° but the culms do not rest on the ground)
9 = Procumbent (The culm or its lower part rests on the ground surface)

6

2. CULM: (continued)

LENGTH

100 • 0 cm (Soil level to top of extended panicle on main stem)

• cm Shorter Than Check Variety: _____

Length Same as

Check Variety: _____

4 • 0 cm Longer than Check Variety: M-202

1 Height Class: 1 = Semidwarf 2 = Short 3 = Medium 4 = Tall

1 Internode Color: (After Flowering): 1 = Green 2 = Light Gold 3 = Purple Lines 4 = Purple

3 Strength (Lodging Resistance):
1 = Strong (no Lodging) 3 = Moderately Strong (Most Plants Leaning)
5 = Intermediate (Most Plants Lodged) 7 = Weak (Most Plants Flat)
9 = Very Weak (All Plants Flat)

3. FLAG LEAF: (After Heading)

36 • 0 cm Length

13 • 6 mm Width

1 Pubescence: 1 = Glabrous 2 = Intermediate 3 = Pubescent

1 Leaf Angle (After Heading): 1 = Erect 3 = Intermediate 5 = Horizontal 7 = Descending

2 Blade Color: 1 = Pale Green 2 = Green 3 = Dark Green 4 = Purple Tips
5 = Purple Margins 6 = Purple Blotch 7 = Purple

1 Basal Leaf Sheath Color: 1 = Green 2 = Purple Lines 3 = Light Purple 4 = Purple

4. LIGULE:

15 • 0 mm Length (From base of collar to the tip, at late vegetative stage)

1 Color: (Late Vegetative Stage): 1 = White 2 = Purple Lines 3 = Purple

1 Shape: 1 = Acute to Acuminate 2 = 2-Cleft 3 = Truncate

1 Collar Color (Late Vegetative Stage): 1 = Pale Green 2 = Green 3 = Purple

1 Auricle Color (Late Vegetative Stage): 1 = Pale Green 2 = Purple

5. PANICLE:

22 • 3 cm Length

5 Type: 1 = Compact 5 = Intermediate 9 = Open

2 Secondary Branching: 1 = Absent 2 = Light 3 = Heavy 4 = Clustering

3 Exsertion (Near Maturity): 1 = Less than 90% 2 = 90 - 99% 3 = 100% Exserted

2 Axis: 1 = Straight 2 = Droopy

1 Shattering: 1 = Very Low (Less Than 1%) 3 = Low (1 - 5%) 5 = Moderate (6 - 25%)
3 7 = Moderately High (26 - 50%) 9 = High (More than 50%)

Threshability: 1 = Difficult 2 = Intermediate 3 = Easy

6. GRAIN: (Spikelet)

1 Awns (After Full Heading): 0 = Absent 1 = Short and Partly Awned 5 = Short and Fully Awned
2 7 = Long and Partly Awned 9 = Long and Fully AwnedApiculus Color (At Maturity) 1 = White 2 = Straw 3 = Brown (Tawny) 4 = Red
5 = Red Apex 6 = Purple 7 = Purple Apex

1 Stigma Color: 1 = White 2 = Light Green 3 = Yellow 4 = Light Purple 5 = Purple

#200700082

6. GRAIN: (Spikelet)

0 Lemma and Palea Color (At Maturity):

0 = Straw

3 = Brown Furrows on Straw

6 = Purple Spots on Straw

9 = Black

1 = Gold and/or Gold Furrows on Straw Background

4 = Brown (Tawny)

7 = Purple Furrows on Straw

10 = White

2 = Brown Spots on Straw (Piebald)

5 = Reddish to Light Purple

8 = Purple

2 Lemma and Palea Pubescence:

1 = Glabrous

2 = Hairs on Lemma Keel

3 = Hairs on Upper Portion

3

4 = Short Hairs

5 = Long Hairs (Velvety)

Spikelet Sterility (At Maturity):

1 = Highly Fertile (> 90%)

3 = Fertile (75 – 90%)

5 = Partly Sterile (50 – 74%)

7 = Highly Sterile (< 50% to Trace)

9 = Completely Sterile (0%)

7. GRAIN: (Seed)

2 Seed Coat (Bran) Color:

1 = White

2 = Light Brown

3 = Speckled Brown

4 = Brown

1

5 = Red

6 = Variable Purple

7 = Purple

Endosperm Type:

1 = Nonglutinous (Nonwaxy)

2 = Glutinous (Waxy)

3 = Indeterminate

1

Endosperm Translucency:

1 = Clear

5 = Intermediate

9 = Opaque

1

Endosperm Chalkiness:

0 = None

5 = Medium (10 – 20% of Sample)

1 = Small (Less than 10% of Sample)

9 = Large (More than 20% of Sample)

0

Scent (Aroma):

0 = Nonscented

1 = Lightly Scented

2 = Scented

2

Shape Class (Length/Width Ratio):

2 Paddy

1 = Short (2.2:1 and Less)

2 = Medium (2.3:1 to 3.3:1)

3 = Long (3.4:1 and More)

2 Brown

1 = Short (2.0:1 and Less)

2 = Medium (2.1:1 to 3.0:1)

3 = Long (3.1:1 and More)

2 Milled

1 = Short (1.9:1 and Less)

2 = Medium (2.0:1 to 2.9:1)

3 = Long (3.0:1 and More)

Measurements:

Grain Form

Length
(mm)Width
(mm)Thickness
(mm)L/W
Ratio1000 Grains
(grams)

Paddy

8.73

3.25

2.69:1

30.5

Brown

6.60

2.85

2.32:1

24.4

Milled

6.04

2.75

2.20:1

21.0

20.1 Milling Quality (% Hulls)

64.68 Milling Yield (% While Kernel (head) Rice to Rough Rice)

% Protein

17 % Amylose

Alkali Spreading Value: 1.5% KOH Solution

1.7% KOH Solution

7

Gelatination Temperature Type:

1 = High

5 = Intermediate

7 = Low

Amylographic Paste Viscosity (Brabender Units)

Peak
296Hot Paste
175Cooled Paste
275"Breakdown" "Setback"
121/-21.3

8. RESISTANCE TO LOW TEMPERATURE:

3 Germination and Seedling Vigor:

1 = Low

2 = Medium

3 = High

3 Flowering (Spikelet Fertility):

1 = Low

2 = Medium

3 = High

9. SEEDLING VIGOR NOT RELATED TO LOW TEMPERATURE:

3 Vigor:

1 = Low

2 = Medium

3 = High

8

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10. BLAST RESISTANCE: (*Pyricularia oryzae*). (International races found under References)

0 = Immune 1 = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

Group	IB		IC		ID		IE		IG		IH	
Number	1	5	45	49	54	1	17	1	13	1	1	1
Resistance	—	—	—	—	—	—	—	—	—	1	—	Calif race IG1

11. RESISTANCE TO OTHER DISEASES:

0 = Immune 1 = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

___ Narrow Brown Leaf Spot (<i>Cerospora oryzae</i>)	7	___ Aggregate Sheath Spot (<i>Rhizoctonia oryzae-sativae</i>)
___ Leaf Smut (<i>Entyloma oryzae</i>)	___	___ Straight Head
___ Brown Leaf Spot (<i>Helminthosporium oryzae</i>) (= <i>Bipolaris oryzae</i>) (= <i>Drechslera oryzae</i>)	___	___ Kernel Smut (<i>Neovossia horrida</i>) (= <i>Tilletia barclayana</i>)
___ Leaf Scald (<i>Gertachia oryzae</i>)	___	___ White Tip Nematode (<i>Aphelenchoides besseyi</i>)
___ Hoja Blanca Virus	7	___ Stem Rot (<i>Sclerotium oryzae</i>)
___ Sheath Rot (<i>Sarocladium oryzae</i>)	___	___ Bacterial Blight (<i>Xanthomonas campestris pv. oryzae</i>)
___ Pythium Seedling Blight (<i>Pythium sp.</i>)	___	___ Sheath Blight (<i>Rhizoctonia solani</i>)
___ Sheath Spot (<i>Rhizoctonia oryzae</i>)	___	
___ Other: _____		

12. INSECT RESISTANCE:

0 = Immune 1 = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

___ Grasshopper	___	___ Rice Stink Bug (<i>Oegalus pugnax</i>)
___ Rice Leafhopper	___	___ Swarm Caterpillar
___ Rice Hispa	9	___ Rice Water Weevil (<i>Lissorhoptrus oryzophilus</i>)
___ Rice Midge	___	___ Rice Stalk Borer (<i>Chilo plejadellus</i>)
___ Least Skipper	___	___ Sugarcane Borer (<i>Diatraea saccharalis</i>)

13. OTHER DESCRIPTORS: If there are other characters that describe this variety, please indicate below:**REFERENCES**

- C. R. Adair *et al.* 1972. Rice in the United States: Varieties and Production. USDA Handbook No. 289 (Rev.), 124 pp.
- J. G. Atkins *et al.* 1967. An International Set of Rice Varieties for Differentiating Race of *Pyricularia Oryzae*. Phytopath. 57:297-301.
- IBPGR-IRRI Rice Advisory Committee. 1980. Descriptors for Rice *Oryzae Sativa* L. International Rice Research Institute. 21 pp.
- K. C. Ling and S. H. Ou, 1969. Standardization of the International Race Numbers of *Pyricularia Oryzae*. Phytopath. 59:339-342.
- B. D. Webb *et al.* 1985. Utilization Characteristics and Qualities of United States Rice. In Proceedings on Rice Grain Quality and Marketing. International Rice Research Institute (IRRI), Los Branos, Philippines. P. 25-35.

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) California Cooperative Rice Research Foundation, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER 02-Y-816	3. VARIETY NAME M-208
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) Rice Experiment Station 955 Butte City Hwy. PO Box 306 Biggs, CA 95917	5. TELEPHONE (Include area code) (530) 868-5481	6. FAX (Include area code) (530) 868-1730
7. PVPO NUMBER		

#200700082

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

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**U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705**

**EXHIBIT F
DECLARATION REGARDING DEPOSIT**

NAME OF OWNER (S) California Cooperative Rice Research Foundation, Inc.	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 955 Butte City Hwy. PO Box 306 Biggs, CA 95917	TEMPORARY OR EXPERIMENTAL DESIGNATION 02-Y-816
NAME OF OWNER REPRESENTATIVE (S) Kent S. McKenzie	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 955 Butte City Hwy. PO Box 306 Biggs, CA 95917	VARIETY NAME M-208 FOR OFFICIAL USE ONLY PVPO NUMBER #200700082

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.

Signature

Date